Why is Long Island Sound Special?

Long Island Sound is an estuary, a place where salt water from the ocean mixes with fresh water from rivers draining from the land. Estuaries are among the most productive ecosystems on Earth. They serve as feeding, breeding, and nursery areas for many species that spend most of their adult lives in the ocean.

But the Sound's watershed is also home to more than 8 million people, with millions more flocking yearly to its shores for recreation. Ferries, ships, and barges transport people and goods into deep water harbors. Commercial and recreational fishers reap bountiful harvests, especially oysters and lobsters, from its waters. Sportfishers seek bluefish, striped bass, winter flounder, fluke, scup, tautog, and weakfish. Boaters and sunbathers by the thousands enjoy the Sound's beaches and ports. Nature centers and aquaria offer a variety of educational opportunities to learn about the Sound's ecosystem and its inhabitants. And bird-watchers only have to come to the shores of the Sound to delight in a variety of shore birds as well as a diversity and abundance of songbirds.

The ability of the Sound to support these diverse uses is dependent on the quality of its waters, living resources, and habitats. These activities in the Sound generate more than $5 billion annually in the regional economy. With the uses it serves and the recreational opportunities it provides, Long Island Sound is among the most important and valuable estuaries in the nation.

What Can You Do?

Here are a few simple things you can do to help restore and protect Long Island Sound.

- Learn how to practice environmentally-sound gardening, reducing the effects of overloading the Sound with nutrient-rich runoff.
- Don't be a litterbug. Never throw litter, especially plastic, into the street, down storm drains, or onto the beach. Rainfall carries the trash into the sewers where it eventually travels into the Sound.
- Take household chemicals to a recycling center instead of pouring them down drains or putting them in the trash.
- Never pour motor oil or auto fluids down a drain or sewer or discard them with the trash *(in Connecticut and New York, it's illegal.)*
- Maintain your septic system by having it pumped out every three to five years.
- Scoop up pet waste and dispose of it in the trash or toilet.
- Get involved in local organizations that monitor land management and participate in efforts to manage growth.
- Use public transportation to reduce smog.

Sound Facts & Figures

Area of LIS: 1320 square miles
Drainage Basin or Watershed: 16,820 square miles
Average Depth: 63 feet (60-120 feet)
Volume: 18 trillion gallons
Coastline: 600 miles
Salinity Ranges: 23 parts per thousand (ppt) in the western end to 35 ppt at the eastern end
Source of Fresh Water: 90% of the fresh water comes from three major Connecticut Rivers - the Thames, Housatonic, and Connecticut
Temperature: 32°F in winter and 73°F in summer
Tides: two high and two low each day with the greatest tides in the west
Population Living within 50 miles: 20 million people
Estimated Value to the Local Economy: $5.5 billion per year
Fish Populations: more than 120 species of finfish, including 21 tropical species that stray here seasonally; at least 50 species spawn in the Sound

To be placed on our mailing list to receive a free copy of the LISS newsletter, *UPDATE*, sign up at www.epa.gov/region01/eco/lis/feedback.

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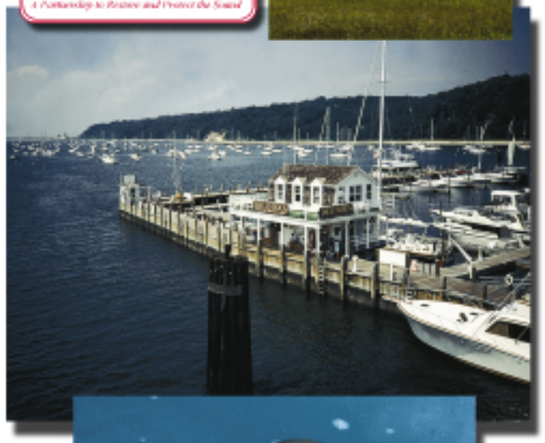
Funded by the Long Island Sound Study 2002
Sponsoring agencies: US EPA, CT DEP, and NYSDEC

Long Island Sound ...

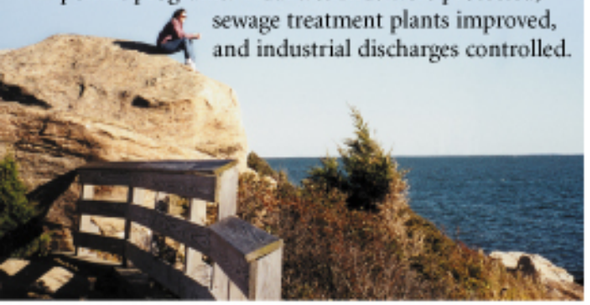
LONG ISLAND SOUND STUDY
A Partnership to Restore and Protect the Sound



Estuary of National Significance

What is Being Done to Protect and Restore Long Island Sound?

Since the federal Clean Water Act became law in 1972, investments in water pollution control programs have led to measurable improvements in the water quality of Long Island Sound. Obvious sources of pollution were controlled through permit programs. Tidal wetlands were protected, sewage treatment plants improved, and industrial discharges controlled.



However, to fully restore the health of the Sound, a cooperative effort focusing on the overall ecosystem was needed. As a result, EPA, New York, and Connecticut formed the Long Island Sound Study (LISS) in 1985, a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to restoring and protecting the Sound. In 1994, the LISS completed a Comprehensive Conservation and Management Plan that identified seven issues meriting special attention: (1) low dissolved oxygen (hypoxia), (2) toxic contamination, (3) pathogen contamination, (4) floatable debris, (5) living resources and habitat management, (6) land use and development, and (7) public involvement and education.

The LISS partners have made significant strides to restore and protect Long Island Sound: managing hypoxia, restoring habitat, involving and educating the public, and monitoring water quality.

Nitrogen (Hypoxia) Management:

- Studies have shown that overfertilizing the Sound with nitrogen contributes to hypoxia.
- In 1998, the LISS adopted a 58.5 percent reduction target for nitrogen loads from human sources to the Sound by 2014, with interim five- and ten-year targets to assure steady progress.
- In 2001, the EPA approved Connecticut's and New York's plan, called a Total Maximum Daily Load (TMDL), for achieving the 58.5 percent nitrogen reduction from point and nonpoint sources of pollution.
- As of January 2001, upgrades to sewage treatment plants have decreased nitrogen loads to the Sound by 19 percent since 1990.
- The severity of hypoxia (lack of oxygen) has decreased in the Sound since the late 1980s.

Habitat Restoration:

- Since 1993, more than 308 acres of tidal wetland habitat have been restored in Connecticut. Since 1996, New York has restored 65 acres of tidal wetlands.
- Since 1998, 34.9 miles of river migratory corridors have been restored for anadromous fish passage by installing fish ladders and removing dams.

Public Involvement and Education:

- The LISS awards grants up to $5,000 for projects to educate and involve the public in the cleanup of the Sound. As of 2000, almost $300,000 in grants have funded 72 projects, including curriculum development, teacher training, beach cleanups, educational posters, and summer programs for children.
- LISS partners hold conferences, summits, and workshops where municipal leaders, research scientists, and educators can share their experiences and highlight their success stories regarding issues such as nitrogen reduction, habitat restoration, research on living marine resources, land use, open space, and smart growth.
- The International Coastal Cleanup takes place annually on the third Saturday of September. Thousands of volunteers from Connecticut and New York remove and document the trash that they collect along the shoreline and underwater. Contact Connecticut Sea Grant at (860) 405-9105 or the American Littoral Society in New York at (718) 634-6467 to be a part of the next beach cleanup in your area. For more information visit The Ocean Conservancy at www.oceanconservancy.org.

Water Quality Monitoring:

- A number of agencies and citizen groups monitor water quality trends to identify how Long Island Sound responds to management initiatives such as nitrogen reduction. Water samples are collected and tested for dissolved oxygen, salinity, temperature, chlorophyll *a*, and other parameters. A new project called Monitoring Your Sound (MYSound) provides real-time access to monitoring data. Visit www.mysound.uconn.edu and get continuous real-time data for dissolved oxygen, temperature, and salinity at surface and bottom waters recorded at stationary buoys located throughout Long Island Sound.

Are These Efforts Working?

Is Long Island Sound getting better? Are fish and wildlife populations more abundant? Answers to these questions and more are in the *Sound Health* report, a snapshot of current conditions and trends in the Sound. Keying in on selected environmental indicators, the report highlights water quality conditions, the status of some of the creatures that live in and around the Sound, and trends in land use and development. Visit the LISS web site at www.epa.gov/region01/eco/lis for details on the health of Long Island Sound.